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United States
Department Of
Agriculture

Forest
Service

Shasta-Trinity National Forests
2400 Washington Avenue
Redding, CA 96001

Reply To: 3420

Date: September 5, 1990

Subject: Evaluation of Marking Guideline Application in Penney Ridge
Salvage Sale, Yolla Bolla RD. (FPM Report No. N90-10)

To: Forest Supervisor

Representatives of The Wilderness Society had concerns about whether some of the trees marked in the Penney Ridge Salvage Sale conformed to the standards stated in the EIS prepared for the project. Arrangements were made for a group of people to collectively examine some of the trees in question on August 30, 1990. The group included Phil Towle, Larry Glass, and Mary Lee Steffensen representing the interests of The Wilderness Society, Dave Schultz and Sheri Smith from the Forest Pest Management Northern California Service Area, Phil Weatherspoon from the Pacific Southwest Forest and Range and Experiment Station, and Ken Smith and Jeff Paulo from the Yolla Bolla RD.

Some of the confusion about the marking may have involved a misunderstanding about the significance of certain colors and types of paint on trees. Trees on the boundaries of some units, and cruised trees in some units were identified with spots or numbers applied with blue paint. These trees did not have the bole completely circled with paint and were also not marked at the stump, but without close examination, may have superficially resembled a tree to be cut.

The prescriptions, proposed harvest methods, and marking have changed in some units because of a change in the preferred alternative. Some units originally proposed to be clearcut using a cable system had green trees marked to be cut, in order to make the harvest system feasible. After the harvest system was changed from cable to helicopter, it was not necessary to remove all green trees. Crews have re-marked most, but not all, of the original cut trees as leave trees in these units. In most cases, the original color paint is still visible to some degree, however the new color changes the intent of the marking. Among the green trees not designated as leave trees, there are some that have obvious signs of a recent decline in vigor, as well as a few that were evidently missed, and some which appear to be borderline judgement calls.

While the area was being examined, it became evident that Unit 142 of the sale had not been re-marked at all. Plans were immediately made to have crews designate leave trees in the unit. All other units in the sale have been re-marked.

The designation of leave trees in the units generally appears to conform with the intent to leave as many green trees as possible. While it is possible to argue about the fate of individual trees, most of the marking appears to be an extremely generous interpretation of guidelines presented in Wagener's PSW Miscellaneous Paper No. 60. Many of the marked trees have cambial injury which would be classified as "severe" if the guidelines were rigorously applied.

Under normal conditions, a high proportion of the trees with severe cambial injury would not be expected to survive more than 3 or 4 years after the fire. Because the two years following the fire have been much drier than normal, considerable mortality has already occurred. Additional mortality should be expected during 1991, regardless of the amount of precipitation received this winter.

Most of the current mortality in the burn is ponderosa pine. The immediate cause of death of the fire-injured ponderosa pine was attacks by the western pine beetle, Dendroctonus brevicomis. Some of the aggregations which survived the fire were densely stocked with mature ponderosa pine. Because the western pine beetle has a strong aggregating pheromone, there have been group kills involving up to 30 trees in the fire-injured ponderosa pine aggregations.

The probability of group kills occurring in ponderosa pine aggregations could be reduced by the selective removal of green trees to produce a spacing of about 20 feet, or more, between the living ponderosa pines. Thinning would only affect the mortality likely to occur within the thinned aggregation, and for a distance of not more than 20 to 30 feet surrounding the thinned area. If it is impossible to remove any green trees from the ponderosa pine aggregations, it should be understood that some aggregations will experience almost total mortality of pines over 4 to 6 inches dbh within the next two years.

Douglas-fir mortality is also beginning to become apparent within the burn. Some of the more severely injured trees have been infested by the fir flatheaded borer, Melanophila drummondi. The life cycle of the fir flatheaded borer usually takes from 2 to 4 years to complete, although it may occasionally take longer. Because numerous Douglas-firs in the burn have already been infested by the fir flatheaded borer, some additional mortality should be expected during each of the next several years.

Incense-cedar, sugar pine and white fir represented a relatively small component of the stands in the areas examined. The only conclusion that can be drawn from the small sample is that the situation appears very similar to that seen in the more abundant tree species. Some of the less frequently encountered tree species are currently dying, or infested with cambium boring insects, and these were generally the most severely injured trees.

In summary, it appears that most of the trees with any chance of surviving more than a few years have been designated for retention in the areas examined. Some trees with virtually no chance of surviving more than another year, or two, have also been marked for retention. Additional mortality which is well above background levels should be expected for at least two more years.

If you need additional information, please call Dave Schultz at (916) 246-5087.

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